Industrial Strength

Lesson 17
Recycle, For PETE's Sake

Plastic Recycling

Pre-lesson

Recycle, For PETE's Sake

Plastic Recycling

3ft X 3ft data sheets for plastic recycling

Materials Needed

1	Package colored markers
7	3ft X 3ft newsprint
7	data sheets (about plastics)

1. Using the colored markers, transfer the information from the data sheets onto the newsprint (see support documents).
2. Print on one side of the newsprint only.

There should be 7 data sheets upon completion.

Teaching Strategies

Recycle, For PETE's Sake

Plastic Recycling

Teaching Strategies

Group Discovery

The group work is effective for all levels of learners.

Group Makeup

Groups should be selected by the lead classroom teacher. The groups should be heterogeneous and learners of all levels should be included.

Small Group Discussion

The small group work is effective for all levels of learners. Discussion and collaboration will allow all students to participate. It will also allow individual students to hear another classmate's ideas in a relaxed setting (they will not be afraid of sharing information).

Worksheets

Worksheets are provided to guide the students through the lesson. The lead teacher may prefer the students to take their own notes.

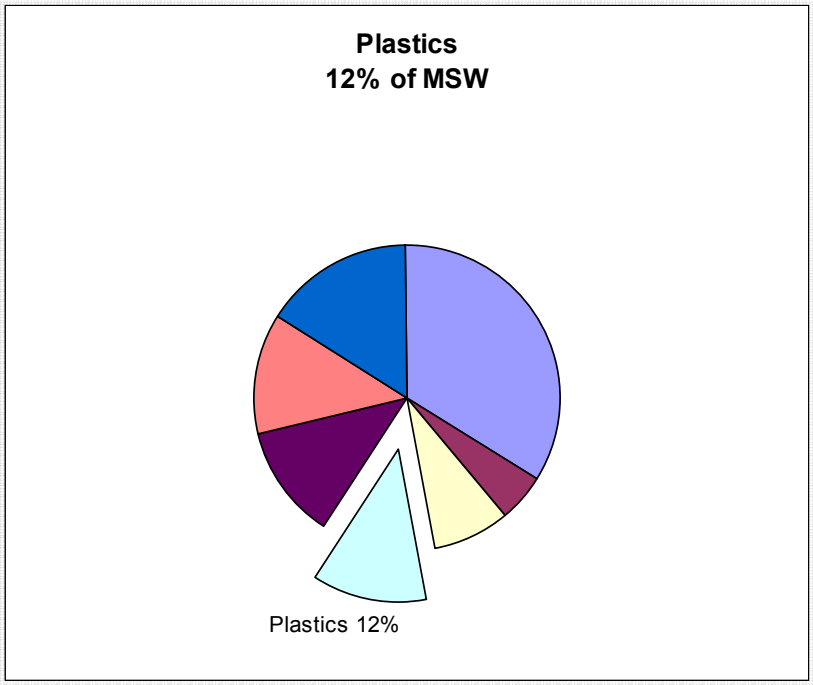
For below level learners and special ed, the teacher may consider having the worksheets filled out for these students. This would be done before class by the teacher or by having an advanced student help.

Tip: The student worksheet can be made as a transparency for group discussion.

Lesson Time:
60 minutes

Recycle, For PETE's Sake

Plastic Recycling



Data from EPA document EPA530-R-06-011 October 2006

Objective

Students will know there are different types of plastic.
Students will complete a chart containing the characteristics of different plastics.
Students will answer questions about plastic based on their completed chart.

Materials Needed

30	Single subject notebooks
6	Dry erase markers
1	White board
7	3ft X3ft Fact sheets (data)

Anticipatory Set

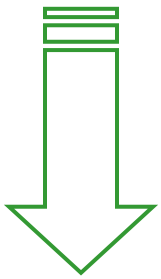
Write the lesson objectives on the white board (or show on overhead).
Discuss with the students what the objectives of the lessons are.

Objective: You will know there are different types of plastic.

Objective: You will complete a chart containing the characteristics of different plastics.

Objective: You will answer questions about plastic based on their completed chart.

Distribute handouts (or workbooks)



Introduction:

"Today we are going to talk about plastic. There are different types of plastics that are made for different uses. Let us take a look at these plastics and see if they can be recycled in Nevada."

Modeling / Guided Practice

1. The students should be in pre-selected groups of five.
2. Arrange the group's desks into a square table.
3. Have one of the students from each group come up to the front of the room to get a 3ft X 3ft data sheet.
4. Have the students spread the sheet out on the desks.

Modeling / Guided Practice

6. Explain to the students that they are to record the data from the 3ft X 3ft onto their worksheet (data).
7. Explain that after 3 minutes, they are to get up and move to the next table. (The table with plastic 1 will move to plastic 2. The table with plastic 7 will move to plastic 1.)
8. This will continue until each student has visited all 7 tables.
9. Check for understanding.

10. Have the students begin. After 3 minutes, tell them to move to the next table.
11. Scaffold for support.
12. When the students are finished collecting data, have them return to their original tables.

13. Have the students complete the questions on their worksheets.
14. Scaffold for support.

15. When the students have completed the worksheets, discuss.

Closure:

1. Take a few minutes to do a quick review of plastic recycling.
2. Check for understanding.

Independent Practice

1. Not applicable.

Examples

Water Bottles
Soda Bottles
Food Jars
Clothes
Carpet

Recycled Into

Carpet
Fleece Jackets
Food Containers

1

PETE

Polyethylene Terephthalate

Properties

Clear
Shatter Resistant
Moisture Barrier Properties

Recycled in Northern Nevada?

YES!
Curbside Pickup
Transfer Station Dropoff

BOTTLE FORM ONLY

Examples

Milk Bottles
Laundry Detergent Bottles
Cereal Box Liners
Grocery Bags

Recycled Into

Shampoo Bottles
Plastic Lumber
Recycling Bins

2

HDPE

High Density Polyethylene

Recycled in Northern Nevada?

YES!
Curbside Pickup
Transfer Station Dropoff

BOTTLE FORM ONLY

Retail Outlets

GROCERY BAGS ONLY

Properties

Relatively Stiff
Translucent
Moisture Barrier Properties

Examples

Food Packaging
Shrink Wrap
Pipe
Blood Bags
Medical Tubing

Recycled Into

Pipe
Decking
Fencing
Floor Tiles

3

PVC

Polyvinyl Chloride

Properties

High Impact Strength
Brilliant Clarity
Rigid and Flexible

Recycled in Northern Nevada?

NO!
NO Curbside Pickup
NO Transfer Station Dropoff

Examples

Bread Bags
Produce Bags
Shrink Wrap
Coating for Milk Cartons
Coating for Paper Cups

Recycled Into

Garbage Bags
Compost Bins
Trash Cans
Furniture

4

LDPE

Low Density Polyethylene

Properties

Relatively Tough
Flexible
Relative Transparency

Recycled in Northern Nevada?

NO!
NO Curbside Pickup
NO Transfer Station Dropoff

Examples

Margarine Container
Yogurt Container
Medicine Bottles
Bottle Caps

Recycled Into

Car Signal Lights
Ice Scrapers
Oil Funnels
Garden Rakes

5

PP

Polypropylene

Properties

Good Clarity
Strong
Moisture Barrier Properties

Recycled in Northern Nevada?

NO!
NO Curbside Pickup
NO Transfer Station Dropoff

Examples

Insulated Cups
Protective Packaging
Packing Peanuts
Some Toys

Recycled Into

Insulation
Camera Cases
Wood Replacement Products

6

PS

Polystyrene

Properties

Stiff
Hard
Brittle
Good Moisture Barrier

Recycled in Northern Nevada?

NO!
NO Curbside Pickup
NO Transfer Station Dropoff

Examples

Reusable Water Bottles
Oven Baking Bags
Custom Packaging

Recycled Into

Bottles
Plastic Lumber

7

OTHER

Multi-Layered Plastic

Properties

Depends on Resins Used

Recycled in Northern Nevada?

NO!
NO Curbside Pickup
NO Transfer Station Dropoff

Support Document

Worksheet Key

Recycle, For PETE's Sake

Plastic Recycling

1. There are 2 types of plastic that are picked up by the curbside recycling program in Northern Nevada. What are they? (You can give their resin code or the scientific name).
#1 – PETE
#2 – HDPE

2. There is another location, besides curbside, to take these two plastics for recycling. What is it called?
Transfer station

3. Plastic 2, HDPE, is also commonly used to make grocery bags. Where can you take grocery bags for recycling?
Retail outlets

4. What type of plastic is used to make ice scrapers?
#5 – PP

5. Is this plastic recyclable in Northern Nevada?
No

6. Which plastic is recycled into insulation?
#6 – PP

7. List one of the products made with recycled plastic 7.
Plastic Lumber, bottles

8. List 3 properties of plastic 4, LDPE.
Tough, flexible, transparent

Solid Waste and Recycling Curriculum **Name:**_____

Lesson 17

Recycle, For PETE's Sake **Date:**_____

Objectives:	I will know there are different types of plastic. I will complete a chart containing the characteristics of different plastics. I will answer questions about plastic based on their completed chart.

1. There are 2 types of plastic that are picked up by the curbside recycling program in Northern Nevada. What are they? (You can give their resin code or the scientific name).

2. There is another location, besides curbside, to take these two plastics for recycling. What is it called?

3. Plastic 2, HDPE, is also commonly used to make grocery bags. Where can you take grocery bags for recycling?

4. What type of plastic is used to make ice scrapers?

5. Is this plastic recyclable in Northern Nevada?

6. Which plastic is recycled into insulation?

7. List one of the products made with recycled plastic 7.

8. List 3 properties of plastic 4, LDPE.

Solid Waste and Recycling Curriculum **Name:**_____

Lesson 17

Recycle, For PETE's Sake **Date:**_____

Recycling in Northern Nevada			
Recycled Products			
Examples			
Properties			
Scientific Name			
Resin Code			

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Recycle, For PETE's Sake **Date:**_____

Recycling in Northern Nevada			
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